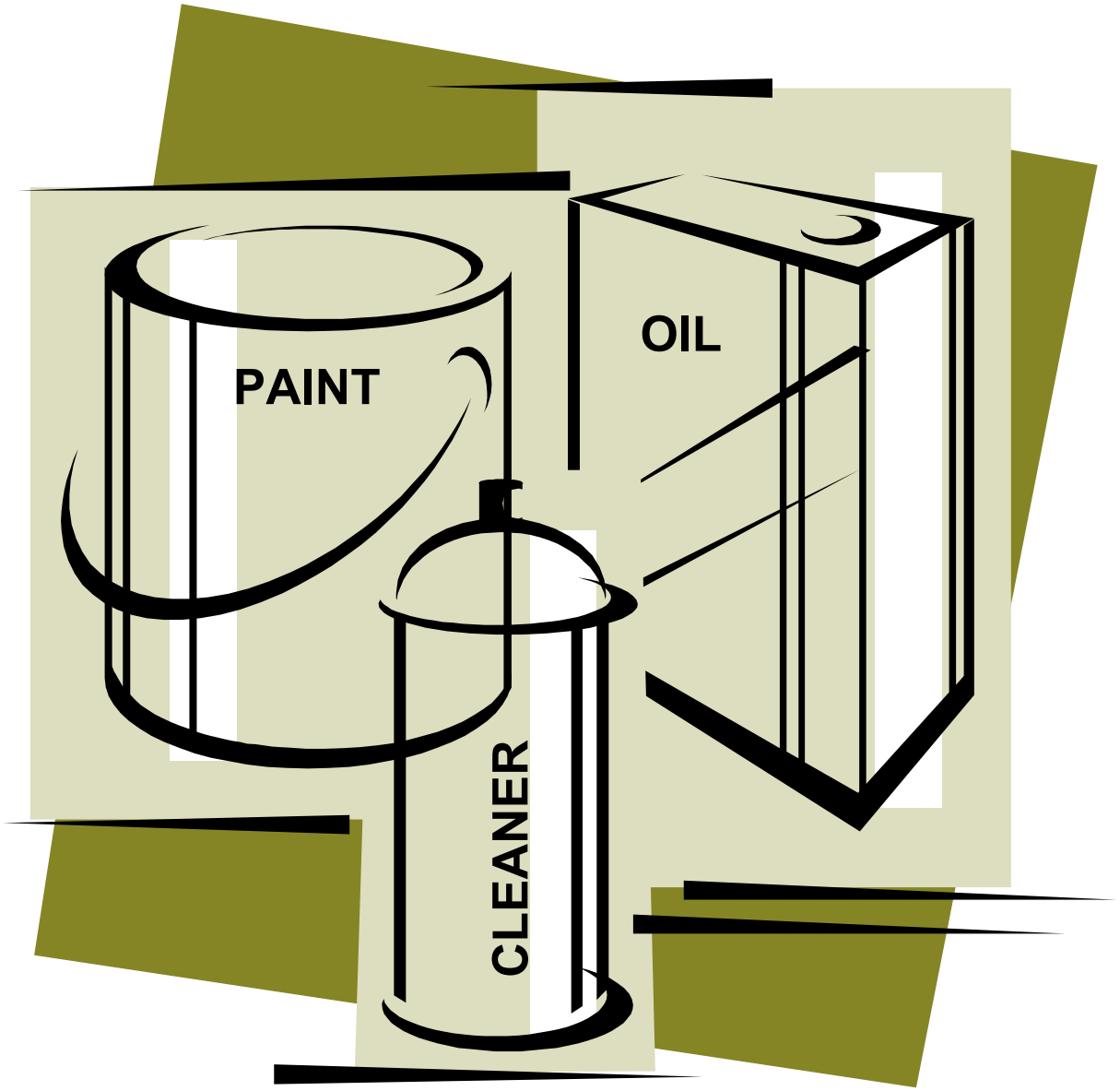
National Park Service
US Department of the Interior

Concession Environmental Management Program
Denver, Colorado

Guidance for Developing a Written Hazard Communication (HAZCOM) Program



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UPDATED: February 2003

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303/987-6913

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Purpose of this Guidance

This document provides an overview of a regulation developed by the Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.1200, titled the Hazard Communication Standard. It explains the elements required in a written Hazard Communication (HAZCOM) Program, gives tips on how to implement a HAZCOM Program, and provides a sample written HAZCOM Program that concessioners can use as a reference in developing their own written HAZCOM Program.

Who Should Read this Guidance

This guidance was written for NPS concessioners who use or store hazardous chemicals at their facilities and therefore may be subject to HAZCOM requirements. In general, chemicals labeled with the words “CAUTION," "WARNING," "DANGER," "POISON," or the skull and crossbones symbol are hazardous chemicals. These include common products found even in households, such as cleaning products, paints, oils, and pesticides (such as wasp killer spray).

When is a HAZCOM Program Needed?

A HAZCOM Program must be written and implemented whenever there are hazardous chemicals in the workplace (i.e., either being used or stored), and where employees could be exposed to these hazardous chemicals while working, either during normal activities or in a foreseeable emergency (e.g., a spill or rupture of a container holding a hazardous chemical).

A HAZCOM Program **is not needed** if the **only** hazardous chemicals purchased and used are those that are considered consumer products, and when these products are used in the workplace in the same manner that a consumer would use them, (i.e.; where the duration and frequency of use (and therefore exposure) is not greater than what the typical consumer would experience). However, if this situation exists, it is still a recommended Best Management Practice (BMP) that concessioners develop a HAZCOM Program to ensure worker safety and protection of the environment.

Common office products such as pens, markers, and correction fluid; and cleaners such as Windex and Pledge, are among those hazardous chemicals that may be considered consumer products.

What is Included in a HAZCOM Program?

Before implementing a HAZCOM program, the concessioner should understand the HAZCOM Standard itself. Attached, as **Appendix B**, is the HAZCOM Standard in its

entirety. While it is important to be familiar with the overall HAZCOM Standard, there are certain sections which are more relevant to concessioner operations. They are:

Paragraph (b): Scope and Application (for reference, if needed).
Paragraph (c): Definitions (for reference, if needed).
Paragraph (e): Written HAZCOM Program.
Paragraph (f): Labels and Other Forms of Warning.
Paragraph (g): Material Safety Data Sheets.
Paragraph (h): Employee Information and Training.

These sections contain information related to four main components to the HAZCOM Standard:

1. **Written HAZCOM Program**. This describes the HAZCOM Program. It should include a list of all hazardous chemicals, and be available to all employees.
2. **Material Safety Data Sheets** (MSDSs). MSDSs should be provided for all hazardous chemicals, and should be readily accessible to all employees at all times.
3. **Labeling system**. Labels are needed for all containers, including hazardous chemicals that are not in their original containers.
4. **Employee training**.

These components are described in more detail in the sections below.

Written HAZCOM Program Elements

OSHA requires companies to develop a document that clearly describes the strategy for implementing container labeling and posting warnings in the workplace, gathering and filing MSDSs, and training employees on the HAZCOM Program – this document is referred to as the written HAZCOM Program. Following is a summary of the OSHA-required elements that should be included in this written HAZCOM Program.

1. Information to be made available to all concessioner employees, contractors, lessees, and park employees:
   a. A comprehensive list of **hazardous chemicals** known to be present in the workplace.
   b. Methods concessioner will use to inform employees of the hazards of non-routine tasks.
   c. Methods concessioner will use to

The concessioner is responsible for informing not only its own employees about the written HAZCOM Program, but also the employers of contractors and park staff who may come in contact with concessioner hazardous chemicals. These "other" individuals' employers do not need to understand the concessioner's entire written HAZCOM Program, but must be informed on specific sections, such as access to MSDSs, protecting employees, and the labeling system.

It is a recommended BMP for a concessioner to inform contractor employees and park staff, not just their employers, of the concessioner's written HAZCOM Program.

BMP

Although the HAZCOM Standard does not cover volunteers, it is also a recommended BMP to inform them of the concessioner's HAZCOM Program.

BMP

provide other employers on-site access to MSDSs.

d. Methods concessioner will use to **provide other employers precautionary measures** that need to be taken to protect employees.
e. Methods concessioner will use to **inform other employers of the labeling system** used in the workplace.
f. Location and availability of written HAZCOM Program.

2. Information regarding labels and other forms of warning, including:
   a. Designation of person responsible for ensuring labeling of containers.
   b. Description of labeling system used.
   c. Directions regarding how to read and interpret information on labels.
   d. Procedures for labeling portable containers.

   The labeling system must ensure that each hazardous chemical container in the workplace is labeled, tagged, or marked with the following information:
   - Identity of the hazardous chemical(s) contained therein.
   - Appropriate hazard warnings, or alternatively, words, pictures, symbols, or a combination thereof, which provide at least general information regarding the hazards of the chemicals. These hazard warnings, when used in conjunction with other information immediately available to employees under the HAZCOM program, should provide employees with specific information regarding the physical and health hazards of the hazardous chemical.

Labeling Exception
A label is not required on a portable container which is intended only for the immediate use of the employee who performs the transfer of the hazardous chemical into the portable container. The hazardous chemical must be used entirely during the work shift in which it was transferred, or the remaining hazardous chemical transferred back to the original container or properly disposed.

3. Information regarding Material Safety Data Sheets, including:
   a. Designation of a person responsible for obtaining and maintaining the MSDSs.
   b. An explanation of how MSDSs are maintained in the workplace (e.g., in notebooks in work areas or via a network computer), and how employees can access them in their work area during the work shift.
   c. Procedures to follow when the MSDS is not received with the first shipment.
   d. How to read and interpret information on MSDSs.
   e. Glossary of MSDS terms.

4. Information regarding employee training programs, including:
   a. Designation of person responsible for conducting training.
   b. Format of the program to be used (e.g., audiovisuals, classroom instruction).
   c. Elements of the training program.
   d. Procedure to train new employees at the time of their initial assignment and when a new physical or health hazard is introduced into the workplace.

e. Methods and observations that may be used to detect the presence or release of a **hazardous chemical** in the workplace such as appearance or smell.
f. A discussion of **physical** and **health hazards** of chemicals in the workplace.
g. Procedures to protect personnel from hazards.

Implementing the HAZCOM Program

As required in the Concession Contract, it is the responsibility of all NPS concessioners to provide a safe and healthful environment for employees and visitors. As such, most NPS concessioners are required to develop a Risk Management Program (RMP). The RMP may also include the HAZCOM Program.

The HAZCOM Program is important to concessioners for a number of reasons. First, it is likely to be the environmental, health, and safety program that is applicable to most concessioner employees. Second, it provides the foundation to support other, more detailed environmental, health, and safety programs. These may include emergency response planning for hazardous substance spills, hazardous material management, hazardous waste disposal, green procurement, respiratory protection, and others.

Some guidance on HAZCOM Program implementation is identified in the "Additional Information" section of this document. Following are some tips for implementing a successful HAZCOM Program.

1. **Maintaining a List of Hazardous Chemicals**
   The list of hazardous chemicals is simply an inventory of all hazardous chemicals used and stored onsite; the list should be kept with the written HAZCOM Program and be updated frequently so that it is current.

   MSDS files (see below) are not a substitute for a list of hazardous chemicals, but they can be used to help generate the list. Only chemical names are needed in the list of hazardous chemicals. As a recommended BMP, the list of hazardous chemicals should also include information such as where the chemicals are stored and in what quantities. A hazardous chemical list outline is provided as **Table 1** in the attached sample written HAZCOM Program.

   BMP

   The Standard Concession Contract published in May 2000, from which new contracts are being prepared, specifies that a list of hazardous substances must be submitted by the concessioner to the park at least annually.

2. **Establishing a Compliant Labeling System**
   Containers holding hazardous chemicals must be labeled with the name of the hazardous chemical and hazard information (e.g., flammable, toxic). The manufacturer's original container for a hazardous chemical should already be appropriately labeled. However, if an original hazardous chemical container label

is missing, the employer is responsible for providing a new label. It is also the employer's responsibility to ensure that secondary containers, such as spray bottles, holding hazardous chemicals are appropriately labeled.

Labeling options include:

- Writing directly on a container;
- Writing on and applying blank labels to a container; and/or
- Applying preprinted labels from the manufacturer to the container.

Employees often know to write the name of hazardous chemicals on spray bottles and other secondary containers so that they know what is in those containers. However, they may not include the hazard information associated with each hazardous chemical on the label. It is important to train employees that both the chemical name and associated hazard information should be clearly labeled on each container holding hazardous chemicals. Additionally, employees should know to replace labels when they are no longer legible or when the container is used for a different purpose.

> The hazard information is available on the original container provided by the manufacturer or distributor and can also be found in the MSDS.

As a recommended BMP, additional information can be included on container labels to help manage hazardous chemicals more effectively. This information includes the date when the chemical was transferred into the secondary container, and who is responsible for managing the container.

> Remember that labels are not required for hazardous chemicals in portable containers that are intended for "immediate use." This means that a hazardous chemical will be under the control and used only by the person who transfers it from a labeled container to an unlabeled container. In addition, the hazardous chemical must be used entirely during the work shift in which it was transferred, or the remaining hazardous chemical transferred back to the original container or properly disposed.

3. Maintaining MSDSs

It can be challenging to comply with the regulatory requirement to maintain MSDSs for each and every hazardous chemical used and stored at concessioner facilities. It does not matter whether the hazardous chemical was purchased from a local convenience store, a large supply company, or was brought into the workplace by an employee from home – employers are **required** to have an MSDS for each hazardous chemical.

Obtaining MSDSs. Employers can obtain MSDSs in a number of ways. They can call the manufacturer (the phone number should be on the product label) or the distributor and request an MSDS, or obtain the MSDS via the Internet

> Concessioners may want to incorporate language into vendor and/or supplier service or purchase contracts or agreements that require MSDSs be provided whenever chemicals are purchased

(a number of manufacturers and independent websites provide this information).

Employers are also responsible for providing MSDSs for chemicals that are brought into the workplace by employees (i.e., chemicals are brought from home). Often employees do not obtain MSDSs for the hazardous chemicals they bring into work, causing the employer's MSDS file to be incomplete. To minimize this from occurring, one recommended BMP is to develop and communicate a policy that prohibits employees from bringing chemicals into the workplace unless they have been authorized to do so. Employers could also establish a centralized procurement person and/or office and communicate to employees that all chemical purchases or chemicals brought into the workplace must be approved by this person/office.

Having MSDSs "Readily Accessible." It is not enough to have MSDSs for each hazardous chemical somewhere in concessioner offices; the concessioner must have these MSDSs "readily accessible" to employees during all work shifts while they are in their work areas. ("Readily accessible" has been interpreted by OSHA to mean that employees do not encounter any barriers to obtaining information contained in MSDSs.)

How a concessioner decides to maintain MSDS files should be based on what best works for the organization. Concessioners may opt to maintain a single, master MSDS file in a central location that is readily accessible to all employees. However, concessioners should keep in mind that some employees may have difficulty accessing the information if they are located in other rooms, floors, or buildings if this option is selected. Alternatively, a concessioner may decide to maintain individual MSDS files in each designated work area.

The best method for ensuring MSDSs are readily accessible may be a combination of the two approaches. Maintaining a master file in a central location assures that the concessioner has a corporate record of all hazardous chemicals used and stored onsite. Work area-specific MSDS files ensure that MSDSs are readily accessible to employees and appropriate to the specific chemicals used in that work area.

Updating MSDS Files. To make MSDS files user-friendly and ensure they do not become overrun with old information, it is a recommended BMP to remove those MSDSs for hazardous chemicals no longer used or stored onsite.

What Happens to Old MSDSs?
OSHA regulations state that old MSDSs that have been removed from active MSDS files do not need to be retained for any period of time as long as some record of the identity of the hazardous chemical, where it was used, and when it was used is retained for at least thirty years. To comply with this regulation, concessioners may want to keep these MSDSs in the same location where they were used, and date them as to when they were last used. It is a recommended Best Management Practice to file them in a separate section of the MSDS files so as to minimize confusion when searching for current MSDSs.

The HAZCOM Standard does not stipulate how often concessioner MSDS files should be updated, it simply states that they should be "current." Ideally, every time a new chemical is introduced into a workplace, a corresponding MSDS should be placed in the file. At a minimum, MSDS files should be updated (i.e., ensuring that MSDSs for new hazardous chemicals have been inserted and removing outdated MSDSs) at least once or twice a year.

4. **Providing Job-specific Training**
   Training may not require formal classroom sessions. Training may be as simple as a workplace discussion where employees are told what MSDSs are, how to interpret the MSDS information, where they are kept, how they should label hazardous chemical containers, and other key HAZCOM Program aspects. More specific information on HAZCOM training is found in the "Additional Information" section of this document.

5. **Monitoring the HAZCOM Program**
   The best way to maintain a healthy, functioning HAZCOM Program is to periodically check how well parts of the program are being implemented. Employers should conduct spot checks to see whether containers are properly labeled and MSDS files are complete, and interview employees to verify that they understand the HAZCOM Program and comply with its requirements.

Additional Information

Resource Type	Name	Description	Source
document	Hazard Communication – A Compliance Kit	Comprehensive guide that assists employers in complying with the HAZCOM Standard; guide also includes a sample training program	Contact the US Government Printing Office at 202/512-1800 to order it for $20, or contact the NPS CoEMP *GreenLine* number at 303/987-6913 to obtain a photocopy.
website	Technical Links – Hazard Communication	Website that has links to Frequently Asked Questions, fact sheets, and information on labeling, MSDSs, training, and HAZCOM Standard compliance	OSHA www.osha.gov/SLTC/hazardcommunications/index.html
document	Guidance for Conducting Hazard Communication Training	Guidance written specifically for concessioners on conducting HAZCOM training, as required by the HAZCOM Standard	NPS Concession Environmental Management Program *GreenLine* Technical Assistance Number 303/987-6913
phone number	OSHA HelpLine	Provides regulatory assistance	OSHA 301/515-6796
website	OSHA Office Directory	Provides contact information for federal and state OSHA offices	OSHA osha.gov/html/oshdir.html

Resource Type	Name	Description	Source
document	EnviroCheck Sheet: Hazard Communication	Multi-page document used as a tool during NPS environmental audits	NPS Concession Environmental Management Program GreenLine Technical Assistance Number 303/987-6913

APPENDIX A

SAMPLE WRITTEN HAZARD COMMUNCIATION PROGRAM

Background: This sample written HAZCOM Program (for a fictitious concessioner named "Bill's Concession Services, Inc.") may be used by a concessioner as a reference for developing and documenting a written HAZCOM Program.

This HAZCOM Program was written for a small restaurant and gift shop. It is the concessioner's responsibility to understand that this sample HAZCOM Program **SHOULD NOT BE USED AS TEMPLATE** in developing its own written HAZCOM Program since the written HAZCOM Program must be customized to respond to the services, facilities, needs, and conditions associated with a concessioner's workplace.

The HAZCOM Program for each concessioner should adequately address the requirements under the OSHA HAZCOM Standard. The length and detail of the HAZCOM Program will vary depending on the size of the facilities and operations and the scope of services provided by the concessioner. Consultation with local, state, or federal OSHA offices is recommended when developing a written hazard communication program.

SAMPLE HAZARD COMMUNICATION PROGRAM FOR BILL'S CONCESSION SERVICES, INC.

Policy

Bill's Concession Services, Inc. will fully comply with the Occupational Safety and Health Administration (OSHA) Hazard Communication (HAZCOM) Standard found in 29 CFR 1910.1200. This HAZCOM Program applies to all work operations in our company where employees may be exposed to hazardous substances under normal working conditions or during an emergency situation. Through this HAZCOM Program, we inform our employees about the HAZCOM Standard, the hazardous properties of chemicals with which they work, safe handling procedures, and measures that should be taken to protect themselves from these hazards.

HAZCOM Program Coordinator

The Concessioner Safety Manager, Sally Jones, is the HAZCOM Program Coordinator. Sally Jones acts as a representative for the General Manager, Bill Brown, who has overall responsibility for the program.

Location of Written HAZCOM Program

This written HAZCOM Program is kept in the main administrative office and is available to all individuals who may potentially come in contact with our hazardous chemicals, and to regulatory inspectors as requested. The HAZCOM Program Coordinator reviews and updates the program as necessary.

HAZCOM Program Elements

1. List of Hazardous Chemicals

A list of hazardous chemicals stored and used in the workplace is found in **Table 1**.

Responsibilities

Title	Responsibilities
HAZCOM Program Coordinator	• Maintain a list of all hazardous chemicals used and stored at all concessioner facilities. (Current list is attached as **Table 1** to this written HAZCOM Program.) • Ensure updated list of hazardous chemicals is present at every site-specific work area where there are MSDS binders.
Supervisors	• Report any new chemicals in the workplace to the HAZCOM Program Coordinator for approval and incorporation into the HAZCOM Program.
Employees	• Obtain supervisor approval for new chemical purchases made outside the normal purchasing system, or those brought from home.

Procedures

As new hazardous chemicals are acquired for use and/or storage at concession facilities, the list will be updated to include these new hazardous chemicals. The list will include the name of the chemical as required by the HAZCOM Standard. The list will also include other information that could be useful in an emergency, such as the locations, container sizes and quantities stored and handled for each of these hazardous chemicals. At least once per year, the HAZCOM Program Coordinator will review and modify the list to ensure information is current and relevant. The list will be submitted to the park once a year.

As a Best Management Practice, a copy of the list will also be maintained in each work area with the MSDS files.

2. Labeling System

Bill's Concession Services has established responsibilities and procedures to ensure that containers are properly labeled in a manner that meets OSHA HAZCOM requirements and that facilitates product inventory control.

Responsibilities

Title	Responsibilities
HAZCOM Program Coordinator	• Ensure that the labeling procedure is followed for all hazardous chemicals that are transferred out of their original containers into secondary containers.
Supervisors	• Ensure employees follow HAZCOM labeling procedures.
Employees	• Properly label containers and replace labels when they are no longer legible.

Procedures

General. Containers will be labeled using one of the following methods:

- Chemical manufacturers' labels will be used for the following chemicals purchased: ECOLAB chemicals.
- Commercially purchased hazardous material identification labels that provide a place for the chemical name and hazardous chemical inventory guide designation (e.g., toxic, reactive, flammable, corrosive) will be used for other containers.
- When manufacturers' or commercially purchased labels are not available, the name and hazard information associated with the chemicals will be written using a permanent marker on a blank label placed on the container, or will be written directly onto the container.

Labeling Original Containers. All chemicals purchased should be delivered in containers with labels containing the required information. If these containers are not properly labeled, they will be provided with labels in accordance with our labeling

procedure. As a Best Management Practice, the containers will be dated when they are received to help in the inventory control process.

Labeling Secondary Containers (see also exception below). If chemicals are transferred from their original containers to secondary containers (e.g., spray bottles), these secondary containers will be labeled with:

- The chemical name.
- The hazards associated with the chemical.

The following methods will be used to provide this information:

- New labels will be placed on the container when the label becomes illegible.
- As a Best Management Practice, the name of the person responsible for filling the container will be noted on the container label. The date the container began to be used will also be provided for containers not regularly being refilled.
- The label will be removed or crossed out when the container is emptied and no longer being used for the chemical.

Labeling Secondary Portable Containers for Immediate Use. The labeling procedure described above for secondary containers IS NOT REQUIRED but is recommended as a Best Management Practice in instances where a chemical is transferred by a worker into a secondary portable container for immediate use. This means that the worker must have the secondary portable container under his/her control at all times, and must use all of the chemical transferred during his/her work shift (e.g., not save it for the following day). If the worker cannot use all of the chemical transferred during his/her work shift, s/he will ask his/her manager whether the chemical should be transferred back to the original container, disposed of as a waste, or labeled appropriately.

3. Material Safety Data Sheets (MSDSs)

MSDSs provide valuable health and safety data on hazardous chemicals used at Bill's Concession Services. A system is in place to ensure that MSDS files are current and readily accessible to our employees.

Responsibilities

Title	Responsibilities
HAZCOM Program Coordinator	• Ensure that MSDSs are obtained for all hazardous chemicals used and stored at concessioner facilities.
Supervisors	• Ensure that MSDS files are properly maintained and readily accessible to all employees at all times. • Inspect work areas at least once per month for hazardous chemicals that do not have MSDSs. • Report to HAZCOM Program Coordinator why hazardous chemicals may be entering workplace without MSDSs (e.g., employees bring them in from home, unauthorized

	purchases).
Employees	• If authorized to purchase chemicals, ensure that an MSDS is obtained for those chemicals.

Procedures
Procedures are in place for the maintenance of MSDS files and to obtain MSDSs for new hazardous chemicals.

MSDS Files and Locations

File	Description	Location
Master MSDS File	• Binder includes all MSDSs of hazardous chemicals used in and stored in the workplace. • MSDSs are filed alphabetically by product name and manufacturer. • Only MSDSs for hazardous chemicals currently being used are filed in these binders.	Main Administrative Office
Not Used - MSDS File	• Binder includes all MSDSs of hazardous chemicals NO LONGER USED IN OR STORED at workplace. • MSDSs are filed alphabetically by product name and manufacturer in a section titled, "MSDSs no longer used" located at the back of the Master MSDS File.	Main Administrative Office
Site-specific MSDS File	• Binder includes MSDSs of hazardous chemicals used in a specific work area. • MSDSs are filed alphabetically by product name and manufacturer. • Only MSDSs for hazardous chemicals currently being used are filed in these binders.	Laundry Room Kitchen Gift Shop

Obtaining MSDSs for MSDS Files
It is Bill's Concession Services, Inc's policy to require that all vendors and suppliers provide MSDSs when a product is first purchased.

If an MSDS is not on file for a hazardous chemical, a Supervisor will obtain it by calling the retailer or manufacturer and requesting a copy, or accessing the Internet to download a copy.

As new hazardous chemicals are purchased for use and/or storage at concessioner facilities, the MSDS master file and appropriate site-specific MSDS binders will be updated.

Those employees that are authorized to make product purchases (retail and/or wholesale) are responsible for making a reasonable effort to ensure MSDSs are obtained for any new products purchased. They are also responsible for alerting

their Supervisor when MSDSs are not obtained so that the Supervisor can obtain the required information.

Employees are prohibited from bringing products from their homes to assist them in performing their work duties at Bill's Concession Services, Inc's facilities.

Employees will be informed where to find MSDSs through the HAZCOM training program.

4. Employee Training

HAZCOM training is the core health and safety training provided to employees at Bill's Concession Services. All employees receive this training.

Responsibilities

Title	Responsibilities
HAZCOM Program Coordinator	• Conducts HAZCOM training for all full and part-time concessioner employees and volunteers.
Employees	• Attend and understand HAZCOM training.

Procedures

HAZCOM training will include an explanation of the potential dangers of and precautions to take in working with hazardous chemicals related to Bill's Concession Services activities. The HAZCOM Program Coordinator will also explain what MSDSs are, where they are found, and how to interpret the information in an MSDS.

HAZCOM training will take place within two weeks of the start of an individual's assignment; refresher HAZCOM training will take place at least annually for all employees or whenever a new hazard is introduced to the workplace.

All employees who have completed HAZCOM training will sign a document indicating that they have received training; this document will be maintained in HAZCOM files.

6. Non-Routine Tasks

There is the potential at Bill's Concession Services for employees to conduct tasks that are not routine and that may involve special hazardous chemicals or have other unique health and safety considerations. Although these occurrences are anticipated to be rare, Bill's Concession Services has established responsibilities and procedures in the event that these circumstances arise to increase employee awareness and promote safe practices.

Responsibilities

Title	Responsibilities
HAZCOM Program Coordinator	• Conducts special HAZCOM training session if employees are required to participate in non-routine tasks.
Employees	• Attend and understand special HAZCOM training if required to participate in non-routine tasks.

Procedures

If employees are asked to participate in non-routine tasks, the HAZCOM Program Coordinator will conduct a special training session. This special training session will inform employees about the hazardous chemicals that they might be exposed to, and the proper precautions they should take to reduce or avoid exposure to these hazardous chemicals.

6. Multi-Employer Workplaces

Activities at Bill's Concession Services involve regular interaction with Park personnel. In addition, Bill's Concession Services has contracts with product and service providers and hires other contractors to provide special services on an as-needed basis. These personnel have the potential to be exposed to hazardous chemicals in our workplace. Bill's Concession Services has established the following responsibilities and procedures to manage these multi-employer workplace situations.

Responsibilities

Title	Responsibilities
HAZCOM Program Coordinator	• Provides park with current written HAZCOM Program as part of our Risk Management Program documentation. • Informs the park, subcontractors, and other workers who may potentially come in contact with our hazardous chemicals of the HAZCOM Program in place.

Procedures

If the park, subcontractors, and other workers may potentially come in contact with our hazardous chemicals, they will be informed as to where they can find our MSDSs, what hazardous chemical dangers are associated with working at our facilities, what appropriate PPE should be worn, and our hazardous chemical labeling system.

7. Program Compliance Assessment and Review

Bill's Concession Services has established a program compliance assessment and review process to ensure that the HAZCOM Program is effectively implemented.

Responsibilities

Title	Responsibilities
HAZCOM Program Coordinator	• Annually, conducts a comprehensive inspection to determine whether current HAZCOM Program is effective, and how it can be improved. • Updates or amends the HAZCOM Program, as needed, based upon results from the comprehensive inspection and input from Supervisors. • Works with Supervisors to inspect and monitor work areas for HAZCOM Program compliance.
Supervisors	• Works with HAZCOM Program Coordinator to periodically inspect (at least once per month) work areas for HAZCOM Program compliance. • Reports to HAZCOM Program Coordinator on how HAZCOM Program could improve.

Procedures

When inspecting work areas for HAZCOM Program compliance, inspectors will, among other items:

- Determine whether containers (including secondary portable containers) are properly labeled.
- Inspect MSDS binders to ensure they are complete and up-to-date.
- Quiz employees on HAZCOM issues to test employee knowledge and the effectiveness of employee training.

All noncompliance issues and their causes, if known, will be reported to the HAZCOM Program Coordinator.

Table 1: List of Hazardous Chemicals

Hazardous Chemical Name / Trade Name	Manufacturer	Location Chemical Used (e.g, maintenance, kitchen, laundry)	Approximate Amount Kept Onsite	Date MSDS added to file
Example: Liquid Tide	*Example:* Proctor & Gamble	*Example:* Employee Laundry Room	*Example:* 20 gallons	*Example:* 06/20/00

APPENDIX B

HAZARD COMMUNICATION STANDARD
29 CFR 1910.1200

(a) Purpose.

(1) The purpose of this section is to ensure that the hazards of all chemicals produced or imported are evaluated, and that information concerning their hazards is transmitted to employers and employees. This transmittal of information is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, material safety data sheets and employee training.

(2) This occupational safety and health standard is intended to address comprehensively the issue of evaluating the potential hazards of chemicals, and communicating information concerning hazards and appropriate protective measures to employees, and to preempt any legal requirements of a state, or political subdivision of a state, pertaining to this subject. Evaluating the potential hazards of chemicals, and communicating information concerning hazards and appropriate protective measures to employees, may include, for example, but is not limited to, provisions for: developing and maintaining a written hazard communication program for the workplace, including lists of hazardous chemicals present; labeling of containers of chemicals in the workplace, as well as of containers of chemicals being shipped to other workplaces; preparation and distribution of material safety data sheets to employees and downstream employers; and development and implementation of employee training programs regarding hazards of chemicals and protective measures. Under section 18 of the Act, no state or political subdivision of a state may adopt or enforce, through any court or agency, any requirement relating to the issue addressed by this Federal standard, except pursuant to a Federally-approved state plan.

(b) Scope and application.

(1) This section requires chemical manufacturers or importers to assess the hazards of chemicals which they produce or import, and all employers to provide information to their employees about the hazardous chemicals to which they are exposed, by means of a hazard communication program, labels and other forms of warning, material safety data sheets, and information and training. In addition, this section requires distributors to transmit the required information to employers. (Employers who do not produce or import chemicals need only focus on those parts of this rule that deal with establishing a workplace program and communicating information to their workers. Appendix E of this section is a general guide for such employers to help them determine their compliance obligations under the rule.)

(2) This section applies to any chemical which is known to be present in the workplace in such a manner that employees may be exposed under normal conditions of use or in a foreseeable emergency.

(3) This section applies to laboratories only as follows:

(i)Employers shall ensure that labels on incoming containers of hazardous chemicals are not removed or defaced;

(ii)Employers shall maintain any material safety data sheets that are received with incoming shipments of hazardous chemicals, and ensure that they are readily accessible during each workshift to laboratory employees when they are in their work areas;

(iii)Employers shall ensure that laboratory employees are provided information and training in accordance with paragraph (h) of this section, except for the location and availability of the written hazard communication program under paragraph (h)(2)(iii) of this section; and,

(iv)Laboratory employers that ship hazardous chemicals are considered to be either a chemical manufacturer or a distributor under this rule, and thus must ensure that any containers of hazardous chemicals leaving the laboratory are labeled in accordance with paragraph (f)(1) of this section, and that a material safety data sheet is provided to distributors and other employers in accordance with paragraphs (g)(6) and (g)(7) of this section.

(4) In work operations where employees only handle chemicals in sealed containers which are not opened under normal conditions of use (such as are found in marine cargo handling, warehousing, or retail sales), this section applies to these operations only as follows:

(i)Employers shall ensure that labels on incoming containers of hazardous chemicals are not removed or defaced;

(ii)Employers shall maintain copies of any material safety data sheets that are received with incoming shipments of the sealed containers of hazardous chemicals, shall obtain a material safety data sheet as soon as possible for sealed containers of hazardous chemicals received without a material safety data sheet if an employee requests the material safety data sheet, and shall ensure that the material safety data sheets are readily accessible during each work shift to employees when they are in their work area(s); and,

(iii)Employers shall ensure that employees are provided with information and training in accordance with paragraph (h) of this section (except for the location and availability of the written hazard communication program under paragraph (h)(2)(iii) of this section), to the extent necessary to protect them in the event of a spill or leak of a hazardous chemical from a sealed container.

(5)This section does not require labeling of the following chemicals:

(i)Any pesticide as such term is defined in the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.), when subject to the labeling requirements of that Act and labeling regulations issued under that Act by the Environmental Protection Agency;

(ii)Any chemical substance or mixture as such terms are defined in the Toxic Substances Control Act (15 U.S.C. 2601 et seq.), when subject to the labeling requirements of that Act and labeling regulations issued under that Act by the Environmental Protection Agency;

(iii)Any food, food additive, color additive, drug, cosmetic, or medical or veterinary device or product, including materials intended for use as ingredients in such products (e.g. flavors and fragrances), as such terms are defined in the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.) or the Virus-Serum-Toxin Act of 1913 (21 U.S.C. 151 et seq.), and regulations issued under those Acts, when they are subject to the labeling requirements under those Acts by either the Food and Drug Administration or the Department of Agriculture;

(iv)Any distilled spirits (beverage alcohols), wine, or malt beverage intended for nonindustrial use, as such terms are defined in the Federal Alcohol Administration Act (27 U.S.C. 201 et seq.) and regulations issued under that Act, when subject to the labeling requirements of that Act and labeling regulations issued under that Act by the Bureau of Alcohol, Tobacco, and Firearms;

(v)Any consumer product or hazardous substance as those terms are defined in the Consumer Product Safety Act (15 U.S.C. 2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) respectively, when subject to a consumer product safety standard or labeling requirement of those Acts, or regulations issued under those Acts by the Consumer Product Safety Commission; and,

(vi)Agricultural or vegetable seed treated with pesticides and labeled in accordance with the Federal Seed Act (7 U.S.C. 1551 et seq.) and the labeling regulations issued under that Act by the Department of Agriculture.

(6)This section does not apply to:

(i)Any hazardous waste as such term is defined by the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6901 et seq.), when subject to regulations issued under that Act by the Environmental Protection Agency;

(ii)Any hazardous substance as such term is defined by the Comprehensive Environmental Response, Compensation and Liability ACT (CERCLA) (42 U.S.C. 9601 et seq.) when the hazardous substance is the focus of remedial or removal action being conducted under CERCLA in accordance with the Environmental Protection Agency regulations.

(iii)Tobacco or tobacco products;

(iv)Wood or wood products, including lumber which will not be processed, where the chemical manufacturer or importer can establish that the only hazard they pose to employees is the potential for flammability or combustibility (wood or wood products which have been treated with a hazardous chemical covered by this standard, and wood which may be subsequently sawed or cut, generating dust, are not exempted);

(v)Articles (as that term is defined in paragraph (c) of this section);

(vi)Food or alcoholic beverages which are sold, used, or prepared in a retail establishment (such as a grocery store, restaurant, or drinking place), and foods intended for personal consumption by employees while in the workplace;

(vii)Any drug, as that term is defined in the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.), when it is in solid, final form for direct administration to the patient (e.g., tablets or pills); drugs which are packaged by the chemical manufacturer for sale to consumers in a retail establishment (e.g., over-the-counter drugs); and drugs intended for personal consumption by employees while in the workplace (e.g., first aid supplies);

(viii)Cosmetics which are packaged for sale to consumers in a retail establishment, and cosmetics intended for personal consumption by employees while in the workplace; (b)(6)(ix)Any consumer product or hazardous substance, as those terms are defined in the Consumer Product Safety Act (15 U.S.C. 2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) respectively, where the employer can show that it is used in the workplace for the purpose intended by the chemical manufacturer or importer of the product, and the use results in a duration and frequency of exposure which is not greater than the range of exposures that could reasonably be experienced by consumers when used for the purpose intended;

(x)Nuisance particulates where the chemical manufacturer or importer can establish that they do not pose any physical or health hazard covered under this section;

(xi)Ionizing and nonionizing radiation; and,

(xii)Biological hazards.

(c) Definitions.

"Article" means a manufactured item other than a fluid or particle:

(i)which is formed to a specific shape or design during manufacture;

(ii)which has end use function(s) dependent in whole or in part upon its shape or design during end use; and

(iii)which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees.

"Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

"Chemical" means any element, chemical compound or mixture of elements and/or compounds.

"Chemical manufacturer" means an employer with a workplace where chemical(s) are produced for use or distribution.

"Chemical name" means the scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name which will clearly identify the chemical for the purpose of conducting a hazard evaluation.

"Combustible liquid" means any liquid having a flashpoint at or above 100 deg. F (37.8 deg. C), but below 200 deg. F (93.3 deg. C), except any mixture having components with flashpoints of 200 deg. F (93.3 deg. C), or higher, the total volume of which make up 99 percent or more of the total volume of the mixture.

"Commercial account" means an arrangement whereby a retail distributor sells hazardous chemicals to an employer, generally in large quantities over time and/or at costs that are below the regular retail price.

"Common name" means any designation or identification such as

code name, code number, trade name, brand name or generic name used to identify a chemical other than by its chemical name.

"Compressed gas" means:
(i)A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70 deg. F (21.1 deg. C); or
(ii) A gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130 deg. F (54.4 deg. C) regardless of the pressure at 70 deg. F (21.1 deg. C); or (iii) A liquid having a vapor pressure exceeding 40 psi at 100 deg. F (37.8 deg. C) as determined by ASTM D-323-72.

"Container" means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of this section, pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.

"Designated representative" means any individual or organization to whom an employee gives written authorization to exercise such employee's rights under this section. A recognized or certified collective bargaining agent shall be treated automatically as a designated representative without regard to written employee authorization.

"Director" means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

"Distributor" means a business, other than a chemical manufacturer or importer, which supplies hazardous chemicals to other distributors or to employers.

"Employee" means a worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Workers such as office workers or bank tellers who encounter hazardous chemicals only in non-routine, isolated instances are not covered.

"Employer" means a person engaged in a business where chemicals are either used, distributed, or are produced for use or distribution, including a contractor or subcontractor.

"Explosive" means a chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.

"Exposure or exposed" means that an employee is subjected in the course of employment to a chemical that is a physical or health hazard, and includes potential (e.g. accidental or possible) exposure.

"Subjected" in terms of health hazards includes any route of entry (e.g. inhalation, ingestion, skin contact or absorption.)

"Flammable" means a chemical that falls into one of the following categories:
(i)"Aerosol, flammable" means an aerosol that, when tested by the method described in 16 CFR 1500.45, yields a flame projection exceeding 18 inches at full valve opening, or a flashback (a flame extending back to the valve) at any degree of valve opening;
(ii) "Gas, flammable" means: (A) A gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of thirteen (13) percent by volume or less; or (B) A gas that, at ambient temperature and pressure, forms a range of flammable mixtures with air wider than twelve (12) percent by volume, regardless of the lower limit;
(iii) "Liquid, flammable" means any liquid having a flashpoint below 100 deg. F (37.8 deg. C), except any mixture having

components with flashpoints of 100 deg. F (37.8 deg. C) or higher, the total of which make up 99 percent or more of the total volume of the mixture;

(iv) "Solid, flammable" means a solid, other than a blasting agent or explosive as defined in 1910.109(a), that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard. A chemical shall be considered to be a flammable solid if, when tested by the method described in 16 CFR 1500.44, it ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis.

"Flashpoint" means the minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite when tested as follows:

(i) Tagliabue Closed Tester (See American National Standard Method of Test for Flash Point by Tag Closed Tester, Z11.24-1979 (ASTM D 56-79)) for liquids with a viscosity of less than 45 Saybolt Universal Seconds (SUS) at 100 deg. F (37.8 deg. C), that do not contain suspended solids and do not have a tendency to form a surface film under test; or

(ii) Pensky-Martens Closed Tester (see American National Standard Method of Test for Flash Point by Pensky-Martens Closed Tester, Z11.7-1979 (ASTM D 93-79)) for liquids with a viscosity equal to or greater than 45 SUS at 100 deg. F (37.8 deg. C), or that contain suspended solids, or that have a tendency to form a surface film under test; or

(iii) Setaflash Closed Tester (see American National Standard Method of Test for Flash Point by Setaflash Closed Tester (ASTM D 3278-78)). Organic peroxides, which undergo autoaccelerating thermal decomposition, are excluded from any of the flashpoint determination methods specified above.

"Foreseeable emergency" means any potential occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which could result in an uncontrolled release of a hazardous chemical into the workplace.

"Hazardous chemical" means any chemical which is a physical hazard or a health hazard.

"Hazard warning" means any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which convey the specific physical and health hazard(s), including target organ effects, of the chemical(s) in the container(s). (See the definitions for "physical hazard" and "health hazard" to determine the hazards which must be covered.)

"Health hazard" means a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes. Appendix A provides further definitions and explanations of the scope of health hazards covered by this section, and Appendix B describes the criteria to be used to determine whether or not a chemical is to be considered hazardous for purposes of this standard.

"Identity" means any chemical or common name which is indicated on the material safety data sheet (MSDS) for the chemical. The identity used shall permit cross-references to be made among the

required list of hazardous chemicals, the label and the MSDS.

"Immediate use" means that the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

“Importer" means the first business with employees within the Customs Territory of the United States which receives hazardous chemicals produced in other countries for the purpose of supplying them to distributors or employers within the United States.

"Label" means any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.

"Material safety data sheet (MSDS)" means written or printed material concerning a hazardous chemical which is prepared in accordance with paragraph (g) of this section.
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"Mixture" means any combination of two or more chemicals if the combination is not, in whole or in part, the result of a chemical reaction.

"Organic peroxide" means an organic compound that contains the bivalent -O-O-structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

"Oxidizer" means a chemical other than a blasting agent or explosive as defined in 1910.109(a), that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.

"Physical hazard" means a chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.

"Produce" means to manufacture, process, formulate, blend, extract, generate, emit, or repackage.

"Pyrophoric" means a chemical that will ignite spontaneously in air at a temperature of 130 deg. F (54.4 deg. C) or below.

“Responsible party" means someone who can provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary.

"Specific chemical identity" means the chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.

"Trade secret" means any confidential formula, pattern, process, device, information or compilation of information that is used in an employer's business, and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it. Appendix D sets out the criteria to be used in evaluating trade secrets.

"Unstable (reactive)" means a chemical which in the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure or temperature.

"Use" means to package, handle, react, emit, extract,

generate as a byproduct, or transfer. "Water-reactive" means a chemical that reacts with water to release a gas that is either flammable or presents a health hazard.

"Work area" means a room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.

"Workplace" means an establishment, job site, or project, at one geographical location containing one or more work areas.

(d) Hazard determination.

(1)Chemical manufacturers and importers shall evaluate chemicals produced in their workplaces or imported by them to determine if they are hazardous. Employers are not required to evaluate chemicals unless they choose not to rely on the evaluation performed by the chemical manufacturer or importer for the chemical to satisfy this requirement.

(2)Chemical manufacturers, importers or employers evaluating chemicals shall identify and consider the available scientific evidence concerning such hazards. For health hazards, evidence which is statistically significant and which is based on at least one positive study conducted in accordance with established scientific principles is considered to be sufficient to establish a hazardous effect if the results of the study meet the definitions of health hazards in this section. Appendix A shall be consulted for the scope of health hazards covered, and Appendix B shall be consulted for the criteria to be followed with respect to the completeness of the evaluation, and the data to be reported.

(3)The chemical manufacturer, importer or employer evaluating chemicals shall treat the following sources as establishing that the chemicals listed in them are hazardous:

(i)29 CFR part 1910, subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA); or,

(ii)Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment," American Conference of Governmental Industrial Hygienists (ACGIH) (latest edition). The chemical manufacturer, importer, or employer is still responsible for evaluating the hazards associated with the chemicals in these source lists in accordance with the requirements of this standard.

(4)Chemical manufacturers, importers and employers evaluating chemicals shall treat the following sources as establishing that a chemical is a carcinogen or potential carcinogen for hazard communication purposes:

(i)National Toxicology Program (NTP), "Annual Report on Carcinogens" (latest edition); (ii)International Agency for Research on Cancer (IARC) "Monographs" (latest editions); or (iii)29 CFR part 1910, subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration. Note: The "Registry of Toxic Effects of Chemical Substances" published by the National Institute for Occupational Safety and Health indicates whether a chemical has been found by NTP or IARC to be a potential carcinogen.

(5)The chemical manufacturer, importer or employer shall determine the hazards of mixtures of chemicals as follows:

(i)If a mixture has been tested as a whole to determine its hazards, the results of such testing shall be used to determine whether the mixture is hazardous;

(ii)If a mixture has not been tested as a whole to determine whether the mixture is a health hazard, the mixture shall be assumed to present the same health hazards as do the components which comprise one percent (by weight or volume) or greater of the mixture, except

that the mixture shall be assumed to present a carcinogenic hazard if it contains a component in concentrations of 0.1 percent or greater which is considered to be a carcinogen under paragraph (d)(4) of this section;

(iii)If a mixture has not been tested as a whole to determine whether the mixture is a physical hazard, the chemical manufacturer, importer, or employer may use whatever scientifically valid data is available to evaluate the physical hazard potential of the mixture; and,

(iv)If the chemical manufacturer, importer, or employer has evidence to indicate that a component present in the mixture in concentrations of less than one percent (or in the case of carcinogens, less than 0.1 percent) could be released in concentrations which would exceed an established OSHA permissible exposure limit or ACGIH Threshold Limit Value, or could present a health risk to employees in those concentrations, the mixture shall be assumed to present the same hazard.

(6)Chemical manufacturers, importers, or employers evaluating chemicals shall describe in writing the procedures they use to determine the hazards of the chemical they evaluate. The written procedures are to be made available, upon request, to employees, their designated representatives, the Assistant Secretary and the Director. The written description may be incorporated into the written hazard communication program required under paragraph (e) of this section.

(e) Written hazard communication program.

(1)Employers shall develop, implement, and maintain at each workplace, a written hazard communication program which at least describes how the criteria specified in paragraphs (f), (g), and (h) of this section for labels and other forms of warning, material safety data sheets, and employee information and training will be met, and which also includes the following:

(i)A list of the hazardous chemicals known to be present using an identity that is referenced on the appropriate material safety data sheet (the list may be compiled for the workplace as a whole or for individual work areas); and,

(ii)The methods the employer will use to inform employees of the hazards of non-routine tasks (for example, the cleaning of reactor vessels), and the hazards associated with chemicals contained in unlabeled pipes in their work areas.

(2)"Multi-employer workplaces." Employers who produce, use, or store hazardous chemicals at a workplace in such a way that the employees of other employer(s) may be exposed (for example, employees of a construction contractor working on-site) shall additionally ensure that the hazard communication programs developed and implemented under this paragraph (e) include the following:

(i)The methods the employer will use to provide the other employer(s) on-site access to material safety data sheets for each hazardous chemical the other employer(s)' employees may be exposed to while working;

(ii)The methods the employer will use to inform the other employer(s) of any precautionary measures that need to be taken to protect employees during the workplace's normal operating conditions and in foreseeable emergencies; and,

(iii)The methods the employer will use to inform the other employer(s) of the labeling system used in the workplace.

(3)The employer may rely on an existing hazard communication program to comply with these requirements, provided that it meets the criteria established in this paragraph (e).

(4)The employer shall make the written hazard communication program available, upon request, to employees, their designated representatives, the Assistant Secretary and the Director, in accordance with the requirements of 29 CFR 1910.1020 (e).

(5)Where employees must travel between workplaces during a workshift, i.e., their work is carried out at more than one geographical location, the written hazard communication program may be kept at the primary workplace facility.

(f) Labels and other forms of warning.

(1)The chemical manufacturer, importer, or distributor shall ensure that each container of

hazardous chemicals leaving the workplace is labeled, tagged or marked with the following information:

(i)Identity of the hazardous chemical(s);

(ii)Appropriate hazard warnings; and

(iii)Name and address of the chemical manufacturer, importer, or other responsible party.

(2)For solid metal (such as a steel beam or a metal casting), solid wood, or plastic items that are not exempted as articles due to their downstream use, or shipments of whole grain, the required label may be transmitted to the customer at the time of the initial shipment, and need not be included with subsequent shipments to the same employer unless the information on the label changes;

(ii)The label may be transmitted with the initial shipment itself, or with the material safety data sheet that is to be provided prior to or at the time of the first shipment; and, (f)(2)(iii)This exception to requiring labels on every container of hazardous chemicals is only for the solid material itself, and does not apply to hazardous chemicals used in conjunction with, or known to be present with, the material and to which employees handling the items in transit may be exposed (for example, cutting fluids or pesticides in grains).

(3)Chemical manufacturers, importers, or distributors shall ensure that each container of hazardous chemicals leaving the workplace is labeled, tagged, or marked in accordance with this section in a manner which does not conflict with the requirements of the Hazardous Materials Transportation Act (49 U.S.C. 1801 et seq.) and regulations issued under that Act by the Department of Transportation.

(4)If the hazardous chemical is regulated by OSHA in a substance-specific health standard, the chemical manufacturer, importer, distributor or employer shall ensure that the labels or other forms of warning used are in accordance with the requirements of that standard.

(5)Except as provided in paragraphs (6) and (7) of this section, the employer shall ensure that each container of hazardous chemicals in the workplace is labeled, tagged or marked with the following information:

(i)Identity of the hazardous chemical(s) contained therein; and,

(ii)Appropriate hazard warnings, or alternatively, words, pictures, symbols, or combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees under the hazard communication program, will provide employees with the specific information regarding the physical and health hazards of the hazardous chemical.

(6)The employer may use signs, placards, process sheets, batch tickets, operating procedures, or other such written materials in lieu of affixing labels to individual stationary process containers, as long as the alternative method identifies the containers to which it is applicable and conveys the information required by paragraph (5) of this section to be on a label. The written materials shall be readily accessible to the employees in their work area throughout each work shift.

(7)The employer is not required to label portable containers into which hazardous chemicals are transferred from labeled containers, and which are intended only for the immediate use of the employee who performs the transfer. For purposes of this section, drugs which are dispensed by a pharmacy to a health care provider for direct administration to a patient are exempted from labeling.

(8) The employer shall not remove or deface existing labels on incoming containers of hazardous chemicals, unless the container is immediately marked with the required information.

(9) The employer shall ensure that labels or other forms of warning are legible, in English, and prominently displayed on the container, or readily available in the work area throughout each work shift. Employers having employees who speak other languages may add the information in their language to the material presented, as long as the information is presented in English as well.

(10) The chemical manufacturer, importer, distributor or employer need not affix new labels to comply with this section if existing labels already convey the required information.

(11) Chemical manufacturers, importers, distributors, or employers who become newly aware of any significant information regarding the hazards of a chemical shall revise the labels for the chemical within three months of becoming aware of the new information. Labels on containers of hazardous chemicals shipped after that time shall contain the new information. If the chemical is not currently produced or imported, the chemical manufacturer, importers, distributor, or employer shall add the information to the label before the chemical is shipped or introduced into the workplace again.

(g) Material safety data sheets.

(1) Chemical manufacturers and importers shall obtain or develop a material safety data sheet for each hazardous chemical they produce or import. Employers shall have a material safety data sheet in the workplace for each hazardous chemical which they use.

(2) Each material safety data sheet shall be in English (although the employer may maintain copies in other languages as well), and shall contain at least the following information:

(i)The identity used on the label, and, except as provided for in paragraph (i) of this section on trade secrets:

(A) If the hazardous chemical is a single substance, its chemical and common name(s);

(B) If the hazardous chemical is a mixture which has been tested as a whole to determine its hazards, the chemical and common name(s) of the ingredients which contribute to these known hazards, and the common name(s) of the mixture itself; or,

(C)If the hazardous chemical is a mixture which has not been tested as a whole;

(1) The chemical and common name(s) of all ingredients which have been determined to be health hazards, and which comprise 1% or greater of the composition, except that chemicals identified as carcinogens under paragraph (d) of this section shall be listed if the concentrations are 0.1% or greater; and,

(2) The chemical and common name(s) of all ingredients which have been determined to be health hazards, and which comprise less than 1% (0.1% for carcinogens) of the mixture, if there is evidence that the ingredient(s) could be released from the mixture in concentrations which would exceed an established OSHA permissible exposure limit or ACGIH Threshold Limit Value, or could present a health risk to employees; and,

(3) The chemical and common name(s) of all ingredients which have been determined to present a physical hazard when present in the mixture;

(ii)Physical and chemical characteristics of the hazardous chemical (such as vapor pressure, flash point);

(iii)The physical hazards of the hazardous chemical, including the potential for fire, explosion, and reactivity;

(iv)The health hazards of the hazardous chemical, including signs and symptoms of exposure, and any medical conditions which are generally recognized as being aggravated by exposure to the chemical;

(v)The primary route(s) of entry;

(vi)The OSHA permissible exposure limit, ACGIH Threshold Limit Value, and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the material safety data sheet, where available;

(vii)Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Annual Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions), or by OSHA;

(viii)Any generally applicable precautions for safe handling and use which are known to the chemical manufacturer, importer or employer preparing the material safety data sheet, including appropriate hygienic practices, protective measures during repair and maintenance of contaminated equipment, and procedures for clean-up of spills and leaks;

(ix)Any generally applicable control measures which are known to the chemical manufacturer, importer or employer preparing the material safety data sheet, such as appropriate engineering controls, work practices, or personal protective equipment;

(x)Emergency and first aid procedures;

(xi)The date of preparation of the material safety data sheet or the last change to it; and,

(xii)The name, address and telephone number of the chemical manufacturer, importer, employer or other responsible party preparing or distributing the material safety data sheet, who can provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary.

(3) If no relevant information is found for any given category on the material safety data sheet, the chemical manufacturer, importer or employer preparing the material safety data sheet shall mark it to indicate that no applicable information was found.

(4) Where complex mixtures have similar hazards and contents (i.e. the chemical ingredients are essentially the same, but the specific composition varies from mixture to mixture), the chemical manufacturer, importer or employer may prepare one material safety data sheet to apply to all of these similar mixtures.

(5)The chemical manufacturer, importer or employer preparing the material safety data sheet shall ensure that the information recorded accurately reflects the scientific evidence used in making the hazard determination. If the chemical manufacturer, importer or employer preparing the material safety data sheet becomes newly aware of any significant information regarding the hazards of a chemical, or ways to protect against the hazards, this new information shall be added to the material safety data sheet within three months. If the chemical is not currently being produced or imported the chemical manufacturer or importer shall add the information to the material safety data sheet before the chemical is introduced into the workplace again.

(6) Chemical manufacturers or importers shall ensure that distributors and employers are provided an appropriate material safety data sheet with their initial shipment, and with the first shipment after a material safety data sheet is updated;

(ii)The chemical manufacturer or importer shall either provide material safety data sheets with the shipped containers or send them to the distributor or employer prior to or at the time of the shipment;

(iii)If the material safety data sheet is not provided with a shipment that has been labeled as a hazardous chemical, the distributor or employer shall obtain one from the chemical manufacturer or importer as soon as possible; and,

(iv)The chemical manufacturer or importer shall also provide distributors or employers with a material safety data sheet upon request.

(7)(i)Distributors shall ensure that material safety data sheets, and updated information, are provided to other distributors and employers with their initial shipment and with the first shipment after a material safety data sheet is updated;

(ii)The distributor shall either provide material safety data sheets with the shipped containers, or send them to the other distributor or employer prior to or at the time of the shipment;

(iii)Retail distributors selling hazardous chemicals to employers having a commercial account shall provide a material safety data sheet to such employers upon request, and shall post a sign or otherwise inform them that a material safety data sheet is available;

(iv)Wholesale distributors selling hazardous chemicals to employers over-the-counter may also provide material safety data sheets upon the request of the employer at the time of the over-the-counter purchase, and shall post a sign or otherwise inform
such employers that a material safety data sheet is available;

(v)If an employer without a commercial account purchases a hazardous chemical from a retail distributor not required to have material safety data sheets on file (i.e., the retail distributor does not have commercial accounts and does not use the materials), the retail distributor shall provide the employer, upon request, with the name, address, and telephone number of the chemical manufacturer, importer, or distributor from which a material safety data sheet can be obtained;

(vi)Wholesale distributors shall also provide material safety data sheets to employers or other distributors upon request; and,

(vii)Chemical manufacturers, importers, and distributors need not provide material safety data sheets to retail

distributors that have informed them that the retail distributor does not sell the product to commercial accounts or open the sealed container to use it in their own workplaces.

(8)The employer shall maintain in the workplace copies of the required material safety data sheets for each hazardous chemical, and shall ensure that they are readily accessible during each work shift to employees when they are in their work area(s). (Electronic access, microfiche, and other alternatives to maintaining paper copies of the material safety data sheets are permitted as long as no barriers to immediate employee access in each workplace are created by such options.)

(9)Where employees must travel between workplaces during a workshift, i.e., their work is carried out at more than one geographical location, the material safety data sheets may be kept at the primary workplace facility. In this situation, the employer shall ensure that employees can immediately obtain the required information in an emergency.

(10)Material safety data sheets may be kept in any form, including operating procedures, and may be designed to cover groups of hazardous chemicals in a work area where it may be more appropriate to address the hazards of a process rather than individual hazardous chemicals. However, the employer shall ensure that in all cases the required information is provided for each hazardous chemical, and is readily accessible during each work shift to employees when they are in their work area(s).

(11) Material safety data sheets shall also be made readily available, upon request, to designated representatives and to the Assistant Secretary, in accordance with the requirements of 29 CFR 1910.1020(e). The Director shall also be given access to material safety data sheets in the same manner.

(h) Employee information and training.

(1) Employers shall provide employees with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new physical or health hazard the employees have not previously been trained about is introduced into their work area. Information and training may be designed to cover categories of hazards (e.g., flammability, carcinogenicity or specific chemicals. Chemical-specific information must always be available through labels and material safety data sheets.

(2)Information. Employees shall be informed of:

(i)The requirements of this section;

(ii)Any operations in their work area where hazardous chemicals are present; and,

(iii)The location and availability of the written hazard communication program, including the required list(s) of hazardous chemicals, and material safety data sheets required by this section.

(3)Training. Employee training shall include at least:

(i)Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.);

(ii)The physical and health hazards of the chemicals in the work area;

(iii)The measures employees can take to protect themselves from these hazards, including specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used; and,

(iv)The details of the hazard communication program developed by the employer, including an explanation of the labeling system and the material safety data sheet, and how employees can obtain and use the appropriate hazard information.

(i) Trade secrets.

(1)The chemical manufacturer, importer, or employer may withhold the specific chemical identity, including the chemical name and other specific identification of a hazardous chemical, from the material safety data sheet, provided that:

(i)The claim that the information withheld is a trade secret can be supported;

(ii)Information contained in the material safety data sheet concerning the properties and effects of the hazardous chemical is disclosed;

(iii)The material safety data sheet indicates that the specific chemical identity is being withheld as a trade secret; and,

(iv)The specific chemical identity is made available to health professionals, employees, and designated representatives in accordance with the applicable provisions of this paragraph.

(2)Where a treating physician or nurse determines that a medical emergency exists and the specific chemical identity of a hazardous chemical is necessary for emergency or first-aid treatment, the chemical manufacturer, importer, or employer shall immediately disclose the specific chemical identity of a trade secret chemical to that treating physician or nurse, regardless of the existence of a written statement of need or a confidentiality agreement. The chemical manufacturer, importer, or employer may require a written statement of need and confidentiality agreement, in accordance with the provisions of paragraphs (3) and (4) of this section, as soon as circumstances permit.

(3)In non-emergency situations, a chemical manufacturer, importer, or employer shall, upon request, disclose a specific chemical identity, otherwise permitted to be withheld under paragraph (1) of this section, to a health professional (i.e. physician, industrial hygienist, toxicologist, epidemiologist, or occupational health nurse) providing medical or other occupational health services to exposed employee(s), and to employees or designated representatives, if:

(i)The request is in writing;

(ii)The request describes with reasonable detail one or more of the following occupational health needs for the information:

(A)To assess the hazards of the chemicals to which employees will be exposed;

(B)To conduct or assess sampling of the workplace atmosphere to determine employee exposure levels;

(C)To conduct pre-assignment or periodic medical surveillance of exposed employees;

(D)To provide medical treatment to exposed employees;

(E)To select or assess appropriate personal protective equipment for exposed employees;

(F)To design or assess engineering controls or other protective measures for exposed employees; and,

(G)To conduct studies to determine the health effects of exposure.

(iii)The request explains in detail why the disclosure of the specific chemical identity is essential and that, in lieu thereof, the disclosure of the following information to the health professional, employee, or designated representative, would not satisfy the purposes described in paragraph (3) (ii) of this section:

(A)The properties and effects of the chemical;

(B)Measures for controlling workers' exposure to the chemical;

(C)Methods of monitoring and analyzing worker exposure to the chemical; and,

(D)Methods of diagnosing and treating harmful exposures to the chemical;

(iv)The request includes a description of the procedures to be used to maintain the confidentiality of the disclosed information; and

(v)The health professional, and the employer or contractor of the services of the health professional (i.e. downstream employer, labor organization, or individual employee), employee, or designated representative, agree in a written confidentiality agreement that the health professional, employee, or designated representative, will not use the trade secret information for any purpose other than the health need(s) asserted and agree not to release the information under any circumstances other than to OSHA, as provided in paragraph (6) of this section, except as authorized by the terms of the agreement or by the chemical manufacturer, importer, or employer.

(4) The confidentiality agreement authorized by paragraph (i)(3)(iv) of this section:

(i)May restrict the use of the information to the health purposes indicated in the written statement of need;

(ii)May provide for appropriate legal remedies in the event of a breach of the agreement, including stipulation of a reasonable pre-estimate of likely damages; and,

(iii)May not include requirements for the posting of a penalty bond.

(5) Nothing in this standard is meant to preclude the parties from pursuing non-contractual remedies to the extent permitted by law.

(6) If the health professional, employee, or designated representative receiving the trade secret information decides that there is a need to disclose it to OSHA, the chemical manufacturer, importer, or employer who provided the information shall be informed by the health professional, employee, or designated representative prior to, or at the same time as, such disclosure.

(7) If the chemical manufacturer, importer, or employer denies a written request for disclosure of a specific chemical identity, the denial must:

(i)Be provided to the health professional, employee, or designated representative, within thirty days of the request;

(ii)Be in writing;

(iii)Include evidence to support the claim that the specific chemical identity is a trade secret;

(iv)State the specific reasons why the request is being denied; and,

(v)Explain in detail how alternative information may satisfy the specific medical or occupational health need without revealing the specific chemical identity.

(8) The health professional, employee, or designated representative whose request for information is denied under paragraph (3) of this section may refer the request and the written denial of the request to OSHA for consideration.

(9) When a health professional, employee, or designated representative refers the denial to OSHA under paragraph (8) of this section, OSHA shall consider the evidence to determine if:

(i)The chemical manufacturer, importer, or employer has supported the claim that the specific chemical identity is a trade secret;

(ii)The health professional, employee, or designated representative has supported the claim that there is a medical or occupational health need for the information; and,

(iii)The health professional, employee or designated representative has demonstrated adequate means to protect the confidentiality.

(i)If OSHA determines that the specific chemical identity requested under paragraph (3) of this section is not a "bona fide" trade secret, or that it is a trade secret, but the requesting health professional, employee, or designated representative has a legitimate medical or occupational health need for the information, has executed a written confidentiality agreement, and has shown adequate means to protect the confidentiality of the information, the chemical manufacturer, importer, or employer will be subject to citation by OSHA.

(10)(ii) If a chemical manufacturer, importer, or employer demonstrates to OSHA that the execution of a confidentiality agreement would not provide sufficient protection against the potential harm from the unauthorized disclosure of a trade secret specific chemical identity, the Assistant Secretary may issue such orders or impose such additional limitations or conditions upon the disclosure of the requested chemical information as may be appropriate to assure that the occupational health services are provided without an undue risk of harm to the chemical manufacturer, importer, or employer.

(11) If a citation for a failure to release specific chemical identity information is contested by the chemical manufacturer, importer, or employer, the matter will be adjudicated before the Occupational Safety and Health Review Commission in accordance with the Act's enforcement scheme and the applicable Commission rules of procedure. In accordance with the Commission rules, when a chemical manufacturer, importer, or employer continues to withhold the information during the contest, the Administrative Law Judge may review the citation and supporting

documentation "in camera" or issue appropriate orders to protect the confidentiality of such matters.

(12) Notwithstanding the existence of a trade secret claim, a chemical manufacturer, importer, or employer shall, upon request, disclose to the Assistant Secretary any information which this section requires the chemical manufacturer, importer, or employer to make available. Where there is a trade secret claim, such claim shall be made no later than at the time the information is provided to the Assistant Secretary so that suitable determinations of trade secret status can be made and the necessary protections can be implemented.

(13) Nothing in this paragraph shall be construed as requiring the disclosure under any circumstances of process or percentage of mixture information which is a trade secret.

(j) Effective dates. Chemical manufacturers, importers, distributors, and employers shall be in compliance with all provisions of this section by March 11, 1994. Note: The effective date of the clarification that the exemption of wood and wood products from the Hazard Communication standard in paragraph (b)(6)(iv) only applies to wood and wood products including lumber which will not be processed, where the manufacturer or importer can establish that the only hazard they pose to employees is the potential for flammability or combustibility, and that the exemption does not apply to wood or wood products which have been treated with a hazardous chemical covered by this standard, and wood which may be subsequently sawed or cut generating dust has been stayed from March 11, 1994 to August 11, 1994. [59 FR 17479, April 13, 1994; 59 FR 65947, Dec. 22, 1994; 61 FR 5507, Feb. 13, 1996]

Appendix A
Health Hazard Definitions (mandatory)

Although safety hazards related to the physical characteristics of a chemical can be objectively defined in terms of testing requirements (e.g. flammability), health hazard definitions are less precise and more subjective. Health hazards may cause measurable changes in the body - such as decreased pulmonary function. These changes are generally indicated by the occurrence of signs and symptoms in the exposed employees - such as shortness of breath, a non-measurable, subjective feeling. Employees exposed to such hazards must be apprised of both the change in body function and the signs and symptoms that may occur to signal that change.

The determination of occupational health hazards is complicated by the fact that many of the effects or signs and symptoms occur commonly in non-occupationally exposed populations, so that effects of exposure are difficult to separate from normally occurring illnesses. Occasionally, a substance causes an effect that is rarely seen in the population at large, such as angiosarcomas caused by vinyl chloride exposure, thus making it easier to ascertain that the occupational exposure was the primary causative factor. More often, however, the effects are common, such as lung cancer. The situation is further complicated by the fact that most chemicals have not been adequately tested to determine their health hazard potential, and data do not exist to substantiate these effects.

There have been many attempts to categorize effects and to define them in various ways. Generally, the terms "acute" and "chronic" are used to delineate between effects on the basis of severity or duration. "Acute" effects usually occur rapidly as a result of short-term exposures, and are of short duration. "Chronic" effects generally occur as a result of long-term exposure, and are of long duration.

The acute effects referred to most frequently are those defined by the American National Standards Institute (ANSI) standard for Precautionary Labeling of Hazardous Industrial Chemicals (Z129.1-1988) - irritation, corrosivity, sensitization and lethal dose. Although these are important health effects, they do not adequately cover the considerable range of acute effects which may occur as a result of occupational exposure, such as, for example, narcosis.

Similarly, the term chronic effect is often used to cover only carcinogenicity, teratogenicity, and mutagenicity. These effects are obviously a concern in the workplace, but again, do not adequately cover the area of chronic effects, excluding, for example, blood dyscrasias (such as anemia), chronic bronchitis and liver atrophy.

The goal of defining precisely, in measurable terms, every possible health effect that may occur in the workplace as a result of chemical exposures cannot realistically be accomplished. This does not negate the need for employees to be informed of such effects and protected from them. Appendix B, which is also mandatory, outlines the principles and procedures of hazard assessment.

For purposes of this section, any chemicals which meet any of the following definitions, as determined by the criteria set forth in Appendix B are health hazards. However, this is not intended to be an exclusive categorization scheme. If there are available scientific data that involve other animal species or test methods, they must also be evaluated to determine the applicability of the HCS.

1. Carcinogen: A chemical is considered to be a carcinogen if:

(a) It has been evaluated by the International Agency for Research on Cancer (IARC), and found to be a carcinogen or potential carcinogen; or

(b) It is listed as a carcinogen or potential carcinogen in the Annual Report on Carcinogens published by the National Toxicology Program (NTP) (latest edition); or,

(c) It is regulated by OSHA as a carcinogen.

2. Corrosive: A chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact. For example, a chemical is considered to be corrosive if, when tested on the intact skin of albino rabbits by the method described by the U.S. Department of Transportation in appendix A to 49 CFR part 173, it destroys or changes irreversibly the structure of the tissue at the site of contact following an exposure period of four

hours. This term shall not refer to action on inanimate surfaces.

3. Highly toxic: A chemical falling within any of the following categories:

(a) A chemical that has a median lethal dose (LD(50)) of 50 milligrams or less per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.

(b) A chemical that has a median lethal dose (LD(50)) of 200 milligrams or less per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between two and three kilograms each.

(c) A chemical that has a median lethal concentration (LC(50)) in air of 200 parts per million by volume or less of gas or vapor, or 2 milligrams per liter or less of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.

4. Irritant: A chemical, which is not corrosive, but which causes a reversible inflammatory effect on living tissue by chemical action at the site of contact. A chemical is a skin irritant if, when tested on the intact skin of albino rabbits by the methods of 16 CFR 1500.41 for four hours exposure or by other appropriate techniques, it results in an empirical score of five or more. A chemical is an eye irritant if so determined under the procedure listed in 16 CFR 1500.42 or other appropriate techniques.

5.Sensitizer: A chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure to the chemical.

6. Toxic. A chemical falling within any of the following categories:

(a) A chemical that has a median lethal dose (LD(50)) of more than 50 milligrams per kilogram but not more than 500 milligrams per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.

(b) A chemical that has a median lethal dose (LD(50)) of more than 200 milligrams per kilogram but not more than 1,000 milligrams per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between two and three kilograms each.

(c) A chemical that has a median lethal concentration (LC(50)) in air of more than 200 parts per million but not more than 2,000 parts per million by volume of gas or vapor, or more than two milligrams per liter but not more than 20 milligrams per liter of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.

7. Target organ effects. The following is a target organ categorization of effects which may occur, including examples of signs and symptoms and chemicals which have been found to cause such effects. These examples are presented to illustrate the range and diversity of effects and hazards found in the workplace, and the broad scope employers must consider in this area, but are not intended to be all-inclusive.

a. Hepatotoxins: Chemicals which produce liver damage
Signs & Symptoms: Jaundice; liver enlargement
Chemicals: Carbon tetrachloride; nitrosamines

b. Nephrotoxins: Chemicals which produce kidney damage
Signs & Symptoms: Edema; proteinuria
Chemicals: Halogenated hydrocarbons; uranium

c. Neurotoxins: Chemicals which produce their primary toxic effects on the nervous system
Signs & Symptoms: Narcosis; behavioral changes; decrease in motor functions
Chemicals: Mercury; carbon disulfide

d. Agents which act on the blood or hemato-poietic system: Decrease hemoglobin function; deprive the body tissues of oxygen
Signs & Symptoms: Cyanosis; loss of consciousness
Chemicals: Carbon monoxide; cyanides

e. Agents which damage the lung: Chemicals which irritate or damage pulmonary tissue
Signs & Symptoms: Cough; tightness in chest; shortness of breath
Chemicals: Silica; asbestos

f. Reproductive toxins: Chemicals which affect the reproductive capabilities including chromosomal damage (mutations) and effects on fetuses (teratogenesis)
Signs & Symptoms: Birth defects; sterility
Chemicals: Lead; DBCP

g. Cutaneous hazards: Chemicals which affect the dermal layer of the body
Signs & Symptoms: Defatting of the skin; rashes; irritation
Chemicals: Ketones; chlorinated compounds

h. Eye hazards: Chemicals which affect the eye or visual capacity
Signs & Symptoms: Conjunctivitis; corneal damage
Chemicals: Organic solvents; acids

Appendix B
Hazard Determination (Mandatory)

The quality of a hazard communication program is largely dependent upon the adequacy and accuracy of the hazard determination. The hazard determination requirement of this standard is performance-oriented. Chemical manufacturers, importers, and employers evaluating chemicals are not required to follow any specific methods for determining hazards, but they must be able to demonstrate that they have adequately ascertained the hazards of the chemicals produced or imported in accordance with the criteria set forth in this Appendix. Hazard evaluation is a process which relies heavily on the professional judgment of the evaluator, particularly in the area of chronic hazards. The performance-orientation of the hazard determination does not diminish the duty of the chemical manufacturer, importer or employer to conduct a thorough evaluation, examining all relevant data and producing a scientifically defensible evaluation. For purposes of this standard, the following criteria shall be used in making hazard determinations that meet the requirements of this standard.

1. **Carcinogenicity:** As described in paragraph (d)(4) of this section and Appendix A of this section, a determination by the National Toxicology Program, the International Agency for Research on Cancer, or OSHA that a chemical is a carcinogen or potential carcinogen will be considered conclusive evidence for purposes of this section. In addition, however, all available scientific data on carcinogenicity must be evaluated in accordance with the provisions of this Appendix and the requirements of the rule.

2. Human data: Where available, epidemiological studies and case reports of adverse health effects shall be considered in the evaluation.

3. Animal data: Human evidence of health effects in exposed populations is generally not available for the majority of chemicals produced or used in the workplace. Therefore, the available results of toxicological testing in animal populations shall be used to predict the health effects that may be experienced by exposed workers. In particular, the definitions of certain acute hazards refer to specific animal testing results (see Appendix A).

4. Adequacy and reporting of data. The results of any studies which are designed and conducted according to established scientific principles, and which report statistically significant conclusions regarding the health effects of a chemical, shall be a sufficient basis for a hazard determination and reported on any material safety data sheet. In vitro studies alone generally do not form the basis for a definitive finding of hazard under the HCS since they have a positive or negative result rather than a statistically significant finding.

The chemical manufacturer, importer, or employer may also report the results of other scientifically valid studies which tend to refute the findings of hazard.

Appendix D
Definition of “Trade Secret” (Mandatory)

The following is a reprint of the "Restatement of Torts" section 757, comment b (1939):

b. Definition of trade secret. A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over

competitors who do not know or use it. It may be a formula for a chemical compound, a process of manufacturing, treating or preserving materials, a pattern for a machine or other device, or a list of customers. It differs from other secret information in a business (see s759 of the Restatement of Torts which is not included in this Appendix) in that it is not simply information as to single or ephemeral events in the conduct of the business, as, for example, the amount or other terms of a secret bid for a contract or the salary of certain employees, or the security investments made or contemplated, or the date fixed for the announcement of a new policy or for bringing out a new model or the like. A trade secret is a process or device for continuous use in the operations of the business. Generally it relates to the production of goods, as, for example, a machine or formula for the production of an article. It may, however, relate to the sale of goods or to other operations in the business, such as a code for determining discounts, rebates or other concessions in a price list or catalogue, or a list of specialized customers, or a method of bookkeeping or other office management.

Secrecy. The subject matter of a trade secret must be secret. Matters of public knowledge or of general knowledge in an industry cannot be appropriated by one as his secret. Matters which are completely disclosed by the goods which one markets cannot be his secret. Substantially, a trade secret is known only in the particular business in which it is used. It is not requisite that only the proprietor of the business know it. He may, without losing his protection, communicate it to employees involved in its use. He may likewise communicate it to others pledged to secrecy. Others may also know of it independently, as, for example, when they have discovered the process or formula by independent invention and are keeping it secret. Nevertheless, a substantial element of secrecy must exist, so that, except by the use of improper means, there would be difficulty in acquiring the information. An exact definition of a trade secret is not possible. Some factors to be considered in determining whether given information is one's trade secret are: (1) The extent to which the information is known outside of his business; (2) the extent to which it is known by employees and others involved in his business; (3) the extent of measures taken by him to guard the secrecy of the information; (4) the value of the information to him and his competitors; (5) the amount of effort or money expended by him in developing the information; (6) the ease or difficulty with which the information could be properly acquired or duplicated by others.

Novelty and prior art. A trade secret may be a device or process which is patentable; but it need not be that. It may be a device or process which is clearly anticipated in the prior art or one which is merely a mechanical improvement that a good mechanic can make. Novelty and invention are not requisite for a trade secret as they are for patentability. These requirements are essential to patentability because a patent protects against unlicensed use of the patented device or process even by one who discovers it properly through independent research. The patent monopoly is a reward to the inventor. But such is not the case with a trade secret. Its protection is not based on a policy of rewarding or otherwise encouraging the development of secret processes or devices. The protection is merely against breach of faith and reprehensible means of learning another's secret. For this limited protection it is not appropriate to require also the kind of novelty and invention which is a requisite of patentability. The nature of the secret is, however, an important factor in determining the kind of relief that is appropriate against one who is subject to liability under the rule stated in this Section. Thus, if the secret consists of a device or process which is a novel invention, one who acquires the secret wrongfully is ordinarily enjoined from further use of it and is required to account for the profits derived from his past use. If, on the other hand, the secret consists of mechanical improvements that a good mechanic can make without resort to the secret, the wrongdoer's liability may be limited to damages, and an injunction against future use of the improvements made with the aid of the secret may be inappropriate.